

Monitoring of bioproductivity of oilseed spring rape on the basis of remote probing of crops in Bavlinsky municipal district of the republic of Tatarstan

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Abstract

© 2016, International Journal of Pharmacy and Technology. All rights reserved. In the Republic of Tatarstan (Russia) the issues of import substitution and providing the population with food are largely resolved. Agri-farms of Tatarstan have a positive dynamics of development and stably take its place among the first four constituents of the Russian Federation. Having cultivated 2.3% of agricultural lands in Russia, Tatarstan provides 4.7% of agricultural production, in the amount of 188.8 billion rubles. Agricultural business becomes profitable, and begins to entice such a great investors as "Krasny Vostok Agro", "Kulonstroy", "Zolotoy Kolos", "Tatfondbank", "Agrosila Group", et al., who invest multi billions of dollars. So, just "Krasny Vostok Agro", taking a responsibility for 56 thousand of peoples, living in 124 settlements of Alekseevsky, Alkeevsky, Verkhneuslonsky, Zelenodolsky, Nurlatsky and Spassky Districts, managed in a short time, radically change the actual position of affairs. During the implementation of the national project, the results of its activities became the following: tripling of the meat production, tenfold increase of milk production, which made it possible to provide all working population with paying job. The Republic is gradually resolved the questions about supporting of young specialists in agriculture. New houses are built for them in accordance with the federal programs. The aim is to bring the level of country people income to the level of industrial workers. Despite the gained progress, the agricultural sector has many unsolved problems. One of them is the production of vegetable oil. According to specialists' calculations, each year our republic is required 47520 tons of vegetable oil (about 800 wagons with carrying capacity of 60 tons), not including the consumption of mayonnaise, margarine and other products. Taking into account the needs of domestic and foreign markets, it is necessary to increase the cultivated areas of spring rape (main cold-resistant oilseed of Tatarstan) at least up to 200 thousand hectares and to bring gross output of oilseeds to 200-250 thousand tons per year, yielding per every hectare 20-25 quintals of commercial products, instead of 10-12 quintals at this time. One of the reasons of low output of spring rape is the failure in optimal timing of crops treatment against numerous pests (more than 80 species of blasters can occupy this culture, and ruined all the crops during 8-10 days), and chemical weeding due to the lack of timely information. In this regard, the definition of the current situation on the crops of the researched object, the methodology of which is presented in this Article, the assessment and forecasting of its productivity on the basis of space imagery data is the actual problem of modern agro-industrial complex, not only of the Republic of Tatarstan, but the Russian Federation in whole [1, 2].

Keywords

Pests, Radiation and absorption of solar radiation, Satellite imagery, The biomass of spring rape, The NDVI index and others, Weed infestation of crops, Yielding capacity